



City of Rockville

MEMORANDUM

August 7, 2008

TO: Scott Ullery, City Manager

FROM: Mark Charles, Environmental Management Division Chief MC

SUBJECT: Summary and Analysis of the National Capitol Region Draft Climate Change Report Developed by the Metropolitan Washington Council of Governments, July 9, 2008

Introduction

COG's Climate Change Steering Committee has drafted a report on the causes and effects of climate change, the likely ecological and economical impacts to the Washington DC area and the Chesapeake Bay, and identified solutions to reduce greenhouse gases. Comments on the draft report are due from COG members by September 30, 2008. The following summarizes the report's contents and evaluates Rockville's current direction against the recommendations in the draft report.

COG predicts that the next few decades will be ones of rapid change and uncertainty. By 2030, the population of the Washington D.C. area is expected to rise by 1.6 million (and we will add 1.2 million jobs). The outer suburbs, including Montgomery County are expected to experience the fastest growth.

The average American currently contributes 20 metric tons of carbon dioxide each year. As of 2005, greenhouse emissions in the Washington D.C. area were approximately 74 million metric tons. Most of these emissions are linked to electrical generation, motor vehicles, buildings and aviation. Methane from wastewater utilities and landfills, and carbon dioxide from fossil fuels, refrigerants and solvents are all sources of greenhouse gases. Energy and transportation account for 96 percent (energy is 66 percent) of our current emissions. Absent any significant changes, greenhouse gases in the DC area are expected to grow by 33 percent by 2030 and by 43 percent by 2050.

COG established a Climate Change Steering Committee in May 2007. Although Montgomery County government has several members on the Committee, Rockville is not currently represented. The Committee has cataloged best practices and greenhouse gas reduction

techniques; and conducted an inventory of greenhouse gas emissions in the area. The Committee has also developed a regional Climate Action Plan framework.

The Draft Climate Change Report first presents the case for climate change and then sets out a series of recommendations on ways to minimize and reduce gas emissions. The Committee notes that its recommendations will likely have significant benefits and will enhance the region's quality of life, even if predictions of adverse effects are exaggerated.

Electricity Users

The residential sector accounts for 33 percent of the region's total energy demands.

Commercial sources are 46 percent.

Government operations are 12 percent.

And industrial sources are 9 percent.

Electrical Generators

The regional consumption of electricity is approximately 57 million megawatt hours.

<i>Generation Type</i>	<i>Percentage of Electricity Produced</i>
Four large coal fired power plants	50 percent
A Maryland nuclear plant	40 percent
Two large natural gas plants	5 percent
Landfill (methane) generators and incinerators	3.5 percent
Other alternative energy	1.5 percent

Anticipated Regional Effects of Climate Change

The Committee has taken note of the overwhelming evidence that climate change poses a real threat to the area and that it is due, at least in large part, to manmade causes. In the past 70 years, Chesapeake Bay waters have risen to levels that have submerged a number of islands and miles of productive wetlands. Bay waters have warmed by approximately 3.6 F. COG expects both sea level rise and Chesapeake Bay warming to not only continue but to accelerate. Sea level rise is predicted to reach 4 to 12 additional inches by 2030 and 15 to 40 inches by 2050.

Temperature is expected to rise by another 1.8 F to 2.7 F by 2030 and by 4.9 F to 9.5 F by 2050.

The Bay and its tributaries are also expected to face more sediment and nutrient pollution and a further reduction in dissolved oxygen. Heavy rains in winter and spring and less rain in the summer and fall are also likely. Coastal (storm) flooding, saltwater intrusion, algal blooms and further fish and crab declines are anticipated, along with an increase in vector-borne diseases. More frequent forest fires can also be expected.

Montgomery County is specifically called out for being at high risk of drought and severe thunderstorms, while at medium risk for flash flooding and increased snow and ice.

COG anticipates that climate change will have a significant effect on the natural environment, the built environment and the economy. The Washington DC region has some unique advantages over other parts of the country to weather these changes and respond to rising energy prices and economic cycles. However, early action is warranted in order to avoid the worst predicted impacts attributed to climate change.

COG Draft Recommendations

The COG recommends a regional greenhouse gas reduction goal of 10% from the 2005 levels by 2012; 20% by 2020 and 80% by 2050.

There are three ways of reducing greenhouse gases:

- Improve energy efficiency
- Reduce energy demand
- Develop clean alternatives

To be successful, the regional strategy will need to use all three approaches.

COG believes that the new federal vehicle CAFÉ (mileage) standards, and a cap and trade program for utilities will assist the region in attaining the initial 2012 goal. The CAFÉ standards do not apply to heavy (diesel) trucks (which account for 20 percent of the region's carbon dioxide emissions). Therefore, more significant changes will need to be made to achieve the 2020 and 2050 goals.

Other reduction methods include fuel switching, energy conservation, carbon dioxide capture and storage facilities, increased use of renewable energy, increased forest canopy, changes in development patterns, and the increased use of nuclear technology.

The Draft report presents a number of steps that individual residents and commercial businesses can do to contribute to the solution, including improving energy efficiency of buildings, appliances and vehicles.

Example Actions Local Government Can Pursue:

- Adopt a green building program *
- Incorporate Energy Star standards into new government buildings
- Revise building codes to promote energy efficiency *
- Allow higher densities, infill and mixed use construction *
- Adopt an energy efficiency program for residents *
- Identify best practices to reduce energy usage in government facilities *
- Promote alternative energy generation techniques *
- Buy energy through a consortia *
- Replace existing street light bulbs with LED or other energy-saving bulbs *

- Work toward being carbon neutral
- Expand existing recycling programs *
- Develop partnerships with other public and private organizations *
- Establish financial incentives (e.g., a carbon tax, cap and trade programs, tree planting fund, existing building retrofit fund, etc.) to encourage greenhouse gas reductions
- Finance resident energy audits and weatherization methods *
- Increase commuter options such as biking, carpooling, telecommuting and use of mass transit (where available) *
- Purchase electric and hybrid vehicles *
- Switch to a biofuels additive *
- Enforce anti-idling policies
- Preserve and expand the tree canopy *
- Promote green businesses and “green-collar” jobs *

*/ Rockville has a similar initiative already underway.

COG presents a number of funding options communities may pursue (see pages 64-67). COG also concludes that the savings from these measures outweigh their initial costs; and that the greening of these sources will result in the development of “green” jobs. For example, 6,000 new jobs (nationally) were created in the solar energy sector alone in 2007. In 2006, there were approximately 8.5 million jobs associated with all forms of alternative energy. Washington D.C. already has approximately 14,000 environmental professionals in the region – the largest pool in the Country. This local expertise can assist DC communities in achieving the goals.

COG also advocates that it organize a series of workshops on dealing with a prolonged drought, increased wind and flood risk, spikes in heat and air pollution, and exploring opportunities to take local action.

Finally, COG suggests that the temporary Climate Change Steering Committee be made a permanent GOC committee, and that its mission expressly incorporate an *energy policy* component.

Rockville’s Analysis of the COG Draft Report

We have no significant comments on the Draft COG Report at this time.

Rockville should consider the desirability of pursuing representation on the Climate Change Steering Committee.

Rockville is already working on many of the recommendations set out in the draft report.

- Our signature on the U.S. Mayors Climate Change Agreement has committed us to reducing greenhouse gases by 7 percent by 2012.
- We are changing our zoning and building codes to promote energy efficient buildings.
- We are pursuing grant money to upgrade our diesel vehicles and will likely be using a bio-fuel blend in 2009.
- We have made a number of energy efficiency upgrades in City Hall and elsewhere.
- The 2009 budget includes a modest pot of money (\$10,000) for residential home energy audits.
- We are expanding our residential recycling and will be requiring all other entities to recycle 50 percent of their wastestream this fall.
- We are conducting a citywide assessment of our tree canopy and will establish a City tree canopy goal this summer.
- We have constructed a 20-mile network of bike trails to enable residents to bike to work and shopping.
- We are already buying wind power for 15 percent of the City's electricity needs.
- We have subsidies and human resource policies that encourage employees to take metro, carpool and telecommute.

While we need to follow through on these initiatives and set even more stringent goals for ourselves in the coming years, the Draft COG Report does not call for Rockville to make wholesale shifts away from our existing approach to energy efficiency and climate change.

We should consider additional longer-term actions such as:

- Placing one or more alternative energy demonstration projects (solar) at City facilities (rooftop or ground units).
- Increasing our purchase of electricity from wind farms in other parts of the Country to 25 percent.
- Purchasing more electric and hybrid vehicles in lieu of gasoline-powered sedans and SUVs currently used to transport staff around the City.

Should you have any questions about these comments, please contact me at 240-314-8871.

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